

November 8, 2007  
NFRA Document

## **RCOOS Conceptual Design Template**

*A map of the where, what and why for an ideal system*

One of the outcomes of the 2<sup>nd</sup> IOOS Regional Coordination Workshop held in St. Petersburg, FL on Oct 23-25, 2007 was the decision to develop a template for RCOOS conceptual designs. The purpose of the template is to provide a view of the eleven RCOOSs in a common format so that regional designs can be compared and that the whole of a national system can be understood. NOAA has asked for RCOOS Conceptual Designs, Version 1.0, by Dec 20 to assist with planning and the IOOS report to Congress due in April. The following outlines an approach and a format for developing high level (v 1.0) conceptual designs for each region that can be synthesized at the national level to provide crucial information to federal agencies, OMB and Congress.

Conceptual designs are part of the RAs overall plan for providing coastal ocean information to users. They will be stand alone documents but are part of the RAs overall plan for how IOOS will be successful in their regions. It is based on the needs of users and provides an outline of the technical and scientific systems needed to full those needs.

There will be a clear need to develop an iterative process of implementation once funding is secured to transition the RCOOS to operate in a mode of long-term operations. The intent of this document, however, is to establish a high-level concept of what the RCOOSs will be, and will be used for planning purposes. It is critical to capture a systems-level view of the RCOOS in these design documents, rather than enumerating the details of each component.

### Suggested Process to Develop a User-driven Conceptual Design

- Develop regional agreement on priority user needs
- Articulate statement of problem(s) (organize around themes, not system elements) and link problem(s) to users
- Determine prototype products requirements and identify technical approach, including R&D needs for products. (Prototype products provide a starting place for the technology and for early engagement of the users in proto-product evaluation)
- Identify the technical activities (subsystems) required for products or classes of products. e.g.,
  - Observations
  - Data management
  - Modeling/analysis/product development
  - R&D
- Develop and implement a customer development plan for users and a public awareness effort for the regional observing system

- Develop performance metrics (model skill development), work with end-users to determine “service level” (or ‘what is good enough’).
- Refine observing system and products where needed to meet requirements.

### RCOOS Conceptual Design Template for Version 1.0

(due to NOAA Dec 20; due to Josie by Dec 19 for synthesis and packaging)

1. Priorities
  - a. List priorities and explain how priorities were determined
  - b. Identify products that will serve these priorities. Articulate the beneficial uses of these products.
  - c. Table of required activities to meet identified product areas, including outreach.
2. RCOOS Conceptual Design .Should include brief descriptions, rationale, and the interdependencies of the subsystems.
  - Observing system,
  - Data management, and
  - Modeling/analysis/product development.
3. Rough estimate of costs (order \$x million)

The timeframe for the Conceptual Design is 5-10 years (5 years is more realistic but 10 years implies the sustainable goal of IOOS).

### Relationship of Conceptual Design to other documents:

The RCOOS Conceptual Design is one part of the RA’s strategic plan. The strategic plan is the overall plan that outlines how the RAs plans to achieve its goals of meeting user needs, in including how it will be organized and governed to fulfill regional needs, its plan for its fiscal needs, technical and science needs and building public awareness.

#### Strategic Plan

RA governance, management, and structure  
 Conceptual Design -- outline of technical and scientific plan  
 Concept of operations (who will do what)  
 Customer development and user engagement strategy  
 Public and user awareness strategy  
 Educational outreach strategy  
 Fiscal plan for RA/RCOOS operations including time-line estimate of developing non-federal support (eg – customer support).